

WHAT IS CLAIMED IS:

1. A bag system comprising:

a collection machine including a peristaltic pump;

5 a collection device operable to collect a biological fluid;

a solution bag containing an anticoagulant and/or preservation solution;

10 a collection bag operable to receive the biological fluid collected and the anticoagulant and/or preservation solution;

a first flexible tube providing fluid communication between the collection device and the collection bag;

a second flexible tube providing fluid communication between the solution bag and the collection bag;

15 a connector connecting the first and second flexible tubes; and

an association device operable to form a loop with the second flexible tube between the association device and the connector;

20 wherein the loop has a conformation operable to allow its disposition around a head of the peristaltic pump; and

wherein the system has a closed circuit.

25 2. The system of Claim 1, further comprising a three way connector to which a downstream end of an upstream part of the first tube, an upstream end of the downstream part of the first tube, and a downstream end of a second tube are connected.

30

3. The system of Claim 1, wherein the association device further comprises a piece having an object operable to associate the device on the second tube and an object operable to associate the first tube on the piece.

4. The system of Claim 3, further comprising the piece molded from a sterilizable plastics material.

5. The system of Claim 3, further comprising the objects operable to allow fixation of the loop.

6. The system of Claim 3, further comprising the object operable to associate the device on the second tube further operable to allow a nonreversible association and the object operable to associate the first tube on the piece further operable to allow a reversible association.

7. The system of Claim 3, wherein the piece further comprises:

a tubular housing forming an object operable to receive the second tube by inserting the second tube into the housing; and

a lateral U-shaped housing operable to receive the first tube by snapping the first tube into the housing.

20

8. The system of Claim 7, further comprising the piece associated with the first tube by snapping a downstream part of the first tube into the lateral housing.

5

9. The system of Claim 1, further comprising the connector and association device formed as a single piece.

10

10. The system of Claim 9, where the piece comprises a five-way junction having two distinct flow paths.

15

11. The system of Claim 1, further comprising a circuit opener disposed near an upstream end of the second tube.

20

12. The system of Claim 1, further comprising the length of the first tube between the connector and an inlet orifice of the collection bag greater than 15 cm.

25

13. The system of Claim 1, further comprising a part of the second tube forming the loop having a hardness less than that of the first tube.

14. The system of Claim 1, further comprising a subsystem including:

at least one satellite bag;

at least one filter; and

5 a third tube providing fluid communication between the satellite bag and the collection bag.

15. The system of Claim 1, further comprising a subsystem operable to allow sampling of the biological  
10 fluid disposed on the first tube upstream of the connector.

16. A collection machine comprising:

a bag system operable for collection of a biological fluid and addition of an anticoagulant and/or preservation solution through at least one tube, wherein the tube forms a loop;

a peristaltic pump having a compression head operable to move in rotation;

a placement device operable to allow placement of the loop around at least part of the compression head so as to allow pumping of the solution by partial compression of an area of tube forming the loop.

17. The machine of Claim 16, further comprising a single compression head, wherein the biological fluid is collected by natural flow.

18. The machine of Claim 16, wherein the placement device further comprises a groove operable to house part of the loop not disposed around the compression head, the groove having at least one housing operable to connect it to the association device.

19. The machine of Claim 18, further comprising the housing operable to allow locking of the connector or association device in the groove.

20. The machine of Claim 18, further comprising the groove operable to allow placement of the loop in only a single direction.